

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference P2004,0150WO	FOR FURTHER ACTION		See item 4 below
International application No. PCT/DE2005/000281	International filing date (<i>day/month/year</i>) 18 February 2005 (18.02.2005)	Priority date (<i>day/month/year</i>) 20 February 2004 (20.02.2004)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant OSRAM OPTO SEMICONDUCTORS GMBH			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).
2. This REPORT consists of a total of 6 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the report
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input checked="" type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

Date of issuance of this report 04 October 2006 (04.10.2006)	
The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 338 82 70	Authorized officer Agnes Wittmann-Regis e-mail: pt06@wipo.int

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

PCT

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

(PCT Rule 43bis.1)

		Date of mailing (day/month/year)	See form PCT/ISA/210
Applicant's or agent's file reference P2004, 0150WO		FOR FURTHER ACTION See paragraph 2 below	
International application No. PCT/DE2005/000281	International filing date (day/month/year) 18.02.2005	Priority date (day/month/year) 20.02.2004	
International Patent Classification (IPC) or both national classification and IPC H01L27/15, H01L27/14, H01L31/0224, H01L33/00			
Applicant OSRAM OPTO SEMICONDUCTORS GMBH			

1. This opinion contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the opinion
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input checked="" type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/DE2005/000281

Box No. I	Basis of this opinion
	<p>1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.</p> <p><input type="checkbox"/> This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).</p> <p>2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:</p> <p>a. type of material</p> <p><input type="checkbox"/> a sequence listing</p> <p><input type="checkbox"/> table(s) related to the sequence listing</p> <p>b. format of material</p> <p><input type="checkbox"/> in written format</p> <p><input type="checkbox"/> in computer readable form</p> <p>c. time of filing/furnishing</p> <p><input type="checkbox"/> contained in the international application as filed.</p> <p><input type="checkbox"/> filed together with the international application in computer readable form.</p> <p><input type="checkbox"/> furnished subsequently to this Authority for the purposes of search.</p> <p>3. <input type="checkbox"/> In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.</p> <p>4. Additional comments:</p>

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/DE2005/000281

Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement										
<p>1. Statement</p> <table> <tr> <td>Novelty (N)</td> <td>Claims 1-3, 5-7, 10, 11, 13-15, 21-23, 25-27, 35, 36, 38-40, 42, 45, 46, 50, 53</td> <td>YES NO</td> </tr> <tr> <td>Inventive step (IS)</td> <td>Claims 1-58</td> <td>YES NO</td> </tr> <tr> <td>Industrial applicability (IA)</td> <td>Claims 1-58</td> <td>YES NO</td> </tr> </table>			Novelty (N)	Claims 1-3, 5-7, 10, 11, 13-15, 21-23, 25-27, 35, 36, 38-40, 42, 45, 46, 50, 53	YES NO	Inventive step (IS)	Claims 1-58	YES NO	Industrial applicability (IA)	Claims 1-58	YES NO
Novelty (N)	Claims 1-3, 5-7, 10, 11, 13-15, 21-23, 25-27, 35, 36, 38-40, 42, 45, 46, 50, 53	YES NO									
Inventive step (IS)	Claims 1-58	YES NO									
Industrial applicability (IA)	Claims 1-58	YES NO									
<p>2. Citations and explanations:</p> <p>1 Reference is made to the following documents:</p> <p>D1: WO 03/044872 A (SANYO ELECTRIC CO., LTD; TOTTORI SANYO ELECTRIC CO., LTD; KOHNO, KEISHI) 30 May 2003 (2003-05-30), D1': EP 1 460 694 A</p> <p>D2: US 6 278 136 B1 (NITTA KOICHI) 21 August 2001 (2001-08-21)</p> <p>D3: US R E36 747 E (MANABE ET AL.) 27 June 2000 (2000-06-27)</p> <p>D1' is used as a translation of D1.</p> <p>2 The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 1-3, 5-7, 10, 11, 13-15, 21-23, 25-27, 35, 36, 38-40, 42, 45, 46, 50, 53 is not novel within the meaning of PCT Article 33(2).</p> <p>2.1 D1 (see, e.g., figure 3) discloses all the features of these claims; see functional semiconductor area (14, 15, 16), active zone (15), breakthrough (10),</p>											

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

connecting conductor material (31), support (11), insulation material (102).

2.2 D2 (see abstract) discloses all the features of at least claim 1 and of claim 14.

3 Dependent claims 4,8,9,12,16-20,24,28-34,37,41,43,44,47-49,51,52,54-58 do not contain any features which, in combination with the features of any claim to which they refer, meet the PCT requirements for inventive step (PCT Article 33(3)) because these additional features are obvious.

WRITTEN OPINION OF THE
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International application No.
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Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

- 4 Contrary to PCT Rule 5.1(a)(ii), the description does not cite documents D1-D3 or indicate the relevant prior art disclosed therein.

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

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TRANSLATION

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

(PCT Rule 43bis.1)

		Date of mailing (day/month/year)	See form PCT/ISA/210
Applicant's or agent's file reference P2004,0150WO		FOR FURTHER ACTION See paragraph 2 below	
International application No. PCT/DE2005/000281	International filing date (day/month/year) 18.02.2005	Priority date (day/month/year) 20.02.2004	
International Patent Classification (IPC) or both national classification and IPC H01L27/15, H01L27/14, H01L31/0224, H01L33/00			
Applicant OSRAM OPTO SEMICONDUCTORS GMBH			

1. This opinion contains indications relating to the following items: <div style="list-style-type: none; padding-left: 0;"> <input checked="" type="checkbox"/> Box No. I Basis of the opinion <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input checked="" type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application </div>
2. FURTHER ACTION <p>If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.</p> <p>If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.</p> <p>For further options, see Form PCT/ISA/220.</p>
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International application No.
PCT/DE2005/000281

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-3, 5-7, 10, 11, 13-15, 21-23, 25-27, 35, 36, 38-	YES
	Claims	40, 42, 45, 46, 50, 53	NO
Inventive step (IS)	Claims		YES
	Claims	1-58	NO
Industrial applicability (IA)	Claims	1-58	YES
	Claims		NO

2. Citations and explanations:

1 Reference is made to the following documents:

D1: WO 03/044872 A (SANYO ELECTRIC CO., LTD;
TOTTORI SANYO ELECTRIC CO., LTD; KOHNO,
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D2: US 6 278 136 B1 (NITTA KOICHI) 21 August 2001
(2001-08-21)
D3: US R E36 747 E (MANABE ET AL.) 27 June 2000
(2000-06-27)

D1' is used as a translation of D1.

2 The present application does not meet the requirements of PCT Article 33(1) because the subject matter of claims 1-3, 5-7, 10, 11, 13-15, 21-23, 25-27, 35, 36, 38-40, 42, 45, 46, 50, 53 is not novel within the meaning of PCT Article 33(2).

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